

THE OFFICE ACTION

In the previous Office Action, the Examiner reiterated the restriction requirement and indicated that the claims are drawn to three distinct inventions. The Examiner indicated that the claims drawn to invention I (claims 1-15, 26, 27, 30 and 31) had been elected and that claims 16-25, 28 and 29 are withdrawn from further consideration as being drawn to a non-elected invention. The Examiner requested affirmation of this election. The Examiner also indicated that claims 26 and 27 recite substantial the same matter and, thus, claim 27 would be objected to as being a substantial duplicate of claim 26. The Examiner also rejected claims 1-5, 7, 9, 10, 13, 26, 27, 30 and 31 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,275,736 to O'Dowd (O'Dowd). The Examiner also rejected claim 15 under 35 U.S.C. §103(a) as being unpatentable over O'Dowd. The Examiner further rejected claims 6, 8, 11, 12 and 14 under 35 U.S.C. §103(a) as being unpatentable over O'Dowd in view of U.S. Patent No. 4,483,771 to Koch (Koch).

REMARKS

Applicants have given careful consideration to the previous Office Action. Reconsideration of the application is respectfully requested in light of the above amendments and the following comments.

With regard to the restriction requirements, Applicants affirm election of invention I (claims 1-15, 26, 27, 30 and 31) drawn to a method of producing iodine solution, classified in class 210, subclass 650.

With regard to the double patenting objection relating to claims 26 and 27, Applicants respectfully submit that the claims are sufficiently distinct so as to claim different subject matter. In this respect, claim 26, which recites a method for preparing an iodine fluid for dietary purposes recognizes that iodine is an essential element to life and that the subject of this claim provides iodine in a form that can be assimilated by the body. That is, the step of preparing an iodine fluid for dietary purposes in claim 26 specifically provides an iodine fluid having a concentration and other characteristics that

make it suitable for ingestion. Claim 27, on the other hand, recites a method for preparing an iodine fluid for disinfecting, sterilizing and preserving food. This claim relates to the preparation of an iodine fluid for disinfecting uses that are external to the body and relate to the healing of bacteria, viruses and protozoa in water or food. This is a use distinct from that disclosed in the method of claim 26. Applicants therefore submit that the iodine solutions produced by claims 26 and 27 are sufficiently distinct and relate to different functions, such that they claim different subject matter. Applicants request withdrawal of the Examiner's rejection.

A. The present claims are not anticipated by O'Dowd

The Examiner rejected claims 1-5, 7, 9, 10, 13, 26, 27, 30 and 31 under 35 U.S.C. §102(b) as being anticipated by O'Dowd. Applicants respectfully traverse.

O'Dowd relates to a method of producing an aqueous solution of thermodynamically free iodine in which iodine passes by dispersion through an iodine solving solid barrier until vapor pressure equilibrium is reached. O'Dowd makes it clear that the solid barrier is nonporous. That is, the iodine in O'Dowd passes through the solid barrier by solubilizing in the solid and diffusing through the barrier. It is clear that the iodine does not pass through pores in the material (see col. 4, lines 6-16). Further support for this can be found in col. 6, lines 33-38, which lists acceptable materials for the iodine solving barrier as linear polyethylene, isotactic polyethylene, polyoxymethylene and polybutylene terephthalate. These materials are not porous.

The present invention, on the other hand, relates to a method of producing an aqueous solution of iodine from iodine vapor transferred across a porous membrane from an iodine source. In this respect, the process of iodine transfer across the membrane is by vapor permeation through the membrane pores, rather than by solubilizing the iodine in the solid barrier as disclosed in O'Dowd. As disclosed in the Background of the present application, the use of a porous membrane allows for an increased rate of iodine permeation through the membrane as compared to the use of solid iodine solving barriers as disclosed in O'Dowd. Because O'Dowd fails to disclose

the transfer of iodine vapor across a porous membrane, it fails to anticipate the present claims.

O'Dowd fails to anticipate the claims for the further reason that it fails to disclose a membrane that is permeable to both iodine vapor and water vapor. In this respect, O'Dowd discloses that the barrier for use in his invention is solid and impermeable except with respect to iodine that can permeate through the membrane by solubilizing in the solid. The membrane thus acts as a solvent to the iodine. There is no indication that water vapor is also permeable to the solid barrier of O'Dowd. In fact, having a solid barrier that was permeable to water vapor would hinder the process described in O'Dowd since the process is driven by the vapor pressure differential between the two sides of the barrier. Allowing water vapor to diffuse through the solid barrier would allow the vapor pressure to equilibrate with a reduced transfer of iodine from one side to the other. Further, and as described previously, the materials provided for the iodine solving barrier, including polyethylene, polyoxymethylene and polybutylene terephthalate are typically impermeable to water vapor. For at least these reasons, O'Dowd fails to anticipate the present claims.

B. The present claims are not unpatentable over O'Dowd either alone or in view of Koch

The Examiner rejected claim 15 under 35 U.S.C. §103(a) as being unpatentable over O'Dowd. The Examiner further rejected claims 6, 8, 11, 12 and 14 under 35 U.S.C. §103(a) as being unpatentable over O'Dowd in view of Koch. Applicants respectfully traverse.

With respect to claim 15, the Examiner states that O'Dowd teaches all the limitations of claim 1. The Examiner states that O'Dowd further teaches a vacuum but is silent on the temperature and the vessel testing. The Examiner believes that it would be obvious to one of ordinary skill in the art that the temperature of O'Dowd's process is the ambient temperature and that one would construct and test the vessels for its operating conditions for safety. Even assuming for purposes of argument that this is true, O'Dowd fails to teach or suggest a porous membrane that is permeable to iodine

vapor and water vapor. As discussed above, O'Dowd only discloses a non-porous barrier. Thus, O'Dowd fails to disclose or suggest all the elements of claim 15, which is dependent upon and contains all the recitations of claim 1.

With respect to claims 6, 8, 11, 12 and 14, rejected as being unpatentable over O'Dowd in view of Koch, it is the Examiner's position that although O'Dowd fails to teach the recitations in these claims, Koch discloses all of the elements as recited therein.

Koch discloses a multi-layer filter including a macrofilter layer, including a porous material impregnated with bacteria-destroying medication and a microfilter layer bonded to a side of the macrofilter layer. The filter is useful in the filtering of gas or liquid substrates. The proposed combination of O'Dowd and Koch fails to render the present claims unpatentable for at least the following reasons.

First, there is no motivation to combine the references. To properly combine the references under 35 U.S.C. §103 there must be some motivation, either in the prior art or the knowledge generally available to one skilled in the art, to do so. Here, not only is there no motivation to combine the references, the references actually teach away from such a combination. In this respect, and as disclosed above, O'Dowd teaches a non-porous, solid barrier that is impervious to solvents and containments of iodine (col. 3, lines 30-38). This includes water (col. 4, lines 17-18). Koch, on the other hand, is drawn to a filter for water, blood and other fluids for removing bacteria from these fluids. Thus, the fluids must pass through the filter in the invention of Koch. Iodine as a bacteria-destroying medication may be impregnated in the filter of Koch. Thus, Koch discloses a filter in which water and other fluids may freely pass, while the iodine is held within the filter. This is exactly opposite to the solid barrier of O'Dowd which discloses the barrier as being non-porous and nonpermeable to water and other fluids, while allowing iodine to diffuse therethrough. As the Examiner will appreciate, the proposed combination under 35 U.S.C. §103 can not render the prior art unsatisfactory for its intended purpose, nor can it change the principal of operation of a reference (MPEP §2143.01). Here, the proposed combination of Koch and O'Dowd

would render each reference completely unsatisfactory for its intended purpose. Therefore, the proposed combination of Koch and O'Dowd is improper under 35 U.S.C. §103.

Even if the references could somehow be combined, they would still not disclose or suggest all of the elements of the present claims. In this respect, such a proposed combination would fail to disclose or suggest a porous membrane that is permeable to iodine vapor and water vapor, but impermeable to liquids and solids. In this respect, O'Dowd teaches a non-porous membrane that is permeable only to iodine vapor. Koch teaches a porous membrane that is permeable to water and other liquids. The combination of the two would not suggest such a porous membrane as recited in claim 1 of the present application. Further, and with respect to claim 14, Koch fails to disclose transferring iodine vapors through pores. As detailed in column 2, lines 37-41, Koch discloses that iodine may be impregnated into the macrofilter layer. Thus, the iodine is held static in the filter layer and is not transferred or permeated through the filter as disclosed in the present claims. For at least these reasons, the proposed combination of O'Dowd and Koch fails to render the present claims unpatentable under 35 U.S.C. §103. Applicants respectfully request withdrawal of this rejection.

CONCLUSION


In view of the foregoing comments, Applicants submit that claims 1-15, 26, 27, 30 and 31 are in condition for allowance. Applicants respectfully request early notification of such allowance. Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned to attempt to resolve any such issues.

If any fee is due in conjunction with the filing of this response, Applicants authorize deduction of that fee from Deposit Account 06-0308.

Respectfully submitted,

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